

**UNITED STATES PATENT APPLICATION**

of

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for

**PAYMENT OF HEALTH CARE INSURANCE CLAIMS  
USING SHORT-TERM LOANS**

## **BACKGROUND OF THE INVENTION**

### **1. The Field of the Invention**

The present invention relates to systems and methods for approving and paying health care insurance claims promptly. More particularly, the present invention relates to systems and methods for promptly paying health care providers for services rendered before the health care insurance claims can be processed and, if necessary, adjudicated by an associated carrier or payer.

### **2. Relevant Technology**

The cost of health care continues to increase as the health care industry becomes more complex, specialized, and sophisticated. The proportion of the gross domestic product that is accounted for by health care is expected to gradually increase over the coming years as the population ages and new medical procedures become available. Over the years, the delivery of health care services has shifted from individual physicians to large managed health maintenance organizations. This shift reflects the growing number of medical, dental, and pharmaceutical specialists in a complex variety of health care options and programs. This complexity and specialization has created large administrative systems that coordinate the delivery of health care between health care providers, administrators, patients, payers, and carriers. Although beneficial in some respects, the administrative system has increased the overall cost of health care while, at the same time, making it difficult for health care providers to receive advance payment for services rendered.

There are several reasons to account for the detrimental effect that large administrative systems have had on the advance payment of claims for health care services. For example, a single health management organization may review tens of thousands of

1 payment requests each day and tens of millions of requests a year. The sheer volume of  
2 payment requests alone creates a backlog of unpaid claims. Additionally, the contractual  
3 obligations between parties are complex and may change frequently. Often, there are many  
4 different contractual arrangements between patients, payers or carriers, and health care  
5 providers. The amount that is authorized for payment may vary by the service or procedure,  
6 by the particular contractual arrangement with each health care provider, by the contractual  
7 arrangements between the carrier or payer and the patient regarding the allocation of  
8 payment for treatment, and by what is considered consistent with current medical practice.  
9 As a result of any changes in these contractual relationships, it is often necessary to spend  
10 additional time reviewing and analyzing claims, further delaying the payment for services  
11 rendered. This is particularly true when claims are submitted with clerical errors, in which  
12 case the claim will be disputed and may ultimately have to be resubmitted.

13 When a claim is disputed, it must be adjudicated to determine exactly which services  
14 are authorized and how much a health care provider will be paid. Adjudicating a claim can  
15 take several weeks or months and may require multiple submissions of the same claim.  
16 While a claim is being adjudicated, a health care provider is left without funds for services  
17 that have already been rendered, and as a result, the health care provider may suffer serious  
18 financial problems that are associated with cash flow realities.

19 During recent years, there has been an attempt to expedite the payment of health care  
20 services by automating the process for creating, reviewing, and adjudicating payment  
21 requests. For example, there currently exist claims processing systems whereby technicians  
22 at health care providers' offices electronically create and submit medical insurance claims to  
23 a central processing system. The technicians input information identifying the physician,  
24 patient, medical service, carrier or payer, and other data with the medical insurance claim.

1 The central processing system verifies that the physician, patient, and carrier or payer are  
2 participants in the claims processing systems. If so, the central processing system converts  
3 the medical insurance claim into the appropriate format of the specified carrier or payer, and  
4 the claim is then forwarded to the carrier or payer. Upon adjudication and approval of the  
5 insurance claims, the carrier or payer initiates a check to the provider. In effect, such  
6 systems bypass the use of the mail for delivery of insurance claims and save overall time.

7 However, even using these automated systems, medical technicians at the health care  
8 provider's office are often unable to determine whether the claim, as it is submitted, is in  
9 condition for payment. If the claim is not in condition for payment then the claim will  
10 undergo a protracted adjudication, which may include multiple resubmissions of the same  
11 claim. For example, it has been found that a large number of insurance claims are submitted  
12 with information that is incomplete, incorrect, or that describes diagnoses and treatments  
13 that are not eligible for payment. Accordingly, these claims may be rejected for any of a  
14 large number of informalities, including clerical errors, patient ineligibility, indicia of fraud,  
15 etc. The health care provider, however, is not made aware of the deficiencies of the  
16 submitted claims until a later date, potentially weeks afterwards, when the disposition of the  
17 insurance claim is communicated to the health care provider. As a result, many claims are  
18 subject to multiple submission and adjudication cycles, as they are successively created,  
19 rejected, and amended. Each cycle may take several weeks or more. The resulting  
20 duplication of effort decreases the efficiency of the health care system and increases the time  
21 it takes to process a claim.

22 Studies have shown that some insurance claim submission systems reject up to 70%  
23 of claims on their first submission for including inaccurate or incorrect information or for  
24 other reasons. Many of the claims are eventually paid, but only after they have been revised

1 in response to an initial rejection. Thus, while systems that permit electronic submission of  
2 insurance claims marginally decrease the time needed to receive payment by eliminating one  
3 or more days otherwise required to deliver claims by mail, they remain subject to many of  
4 the problems associated with conventional claims submission systems. Accordingly, even  
5 automated systems that are designed to improve the efficiency of the health management  
6 systems have ultimately failed to provide an adequate means for promptly paying health care  
7 providers for services rendered.

8 Some health care providers cannot afford the luxury of waiting an extended period of  
9 time for claims to be processed because of financial obligations related to operating  
10 expenses and overhead. This is particularly true for health care providers who purchase new  
11 equipment and hire experienced staff. Any delay in receiving payment can create cash flow  
12 problems. Accordingly, in order to attempt to minimize the number of claims that are  
13 rejected and effectively reduce the overall amount of time it will take to get paid, physicians  
14 or their staff have had to spend inordinate amounts of time investigating which treatments  
15 will be covered by various insurance carriers and insurance plans. Normally, such activity  
16 involves calling insurance carriers over the telephone. The time spent in such activities,  
17 however, increases overhead costs and represents further efficiency losses in the health care  
18 system. One consequence of the inefficient and lengthy claims processing system is that  
19 some health care providers are deterred from purchasing new equipment and hiring  
20 experienced, high-salary, staff because of cash flow constraints.

21 One way to improve cash flow is to require payment for services at the time of  
22 service. This, however, may be prohibitive, depending upon the cost of the health care  
23 services provided and the ability of a patient to pay. Moreover, many patients are not  
24 willing to pay for health care services at the time they are rendered because they are either

1 covered by insurance or they believe they are covered by insurance. Depending on a  
2 patient's insurance plan and the diagnosis and treatment rendered, however, the patient may  
3 be required to make a co-payment representing, for example, a certain percentage of the  
4 medical bill or a fixed dollar amount. Because of the large number of insurance carriers and  
5 insurance plans, however, the amount of the co-payment can vary from patient to patient and  
6 from visit to visit. In fact, some insurance plans do not require the patient to make a co-  
7 payment at all, in which case the health care provider must wait for the insurance claim to be  
8 processed and adjudicated. Accordingly, the various insurance plans make it difficult to  
9 know exactly how much co-payment each patient is required to make. This is particularly  
10 true when coverage of an insurance plan is based on percentages of total services and not on  
11 flat co-payment amounts. The uncertainty regarding co-payments makes it even more  
12 difficult for health care providers to receive advance payment for services rendered,  
13 particularly for the patient's portion of costs pertaining to the health care services.  
14 Furthermore, once the patient leaves the office, the expense of collecting amounts owed by  
15 the patient increases and the likelihood of getting paid decreases.

16 In view of the foregoing, there is a need in the art for providing health care providers  
17 with advance payment for services rendered. For example, it would be an advancement in  
18 the art to provide a claims payment system that would enable health care providers to  
19 receive payment for services rendered prior to the completion of a conventional claims  
20 adjudication process, particularly when the adjudication process is protracted due to claim  
21 informalities and administrative inefficiencies. It would also be an advancement in the art to  
22 provide a claims payment system that would enable health care providers to know exactly  
23 how much co-payment to request from a patient prior to discharging the patient.  
24

1                                    **SUMMARY AND OBJECTS OF THE INVENTION**

2            The present invention relates to methods and systems for promptly approving and  
3    paying health care providers for services rendered. According to the present invention, a  
4    medical technician can prepare an insurance claim electronically, submit the claim via the  
5    Internet or another wide area network, and receive almost immediately an indication  
6    whether the patient is covered by insurance and whether the submitted claim is in condition  
7    for advance payment. If the claim is not in condition for advance payment, the health care  
8    provider is notified of the claim rejection and can properly amend the claim by correcting  
9    the errors. Once it is determined that the claim is in condition for advance payment, the  
10   claim is submitted to the patient's carrier or payer for conventional claims processing and, if  
11   necessary, adjudication. The claim is simultaneously submitted to a payment entity where it  
12   is determined what funds should be advanced to the health care provider and how the funds  
13   are to be distributed.

14           The present invention can significantly reduce the amount of time it takes for a  
15   health care provider to receive payment for services rendered. This is particularly true when  
16   a claim is ultimately subjected to a lengthy adjudication process in the conventional claims  
17   processing by a patient's carrier or payer. The invention can also significantly reduce the  
18   time, effort, and expense that have been associated with the submission of claims that are  
19   not in condition to be paid, such as claims that are submitted with clerical errors. A medical  
20   technician can also receive an almost immediate indication of any co-payment that is  
21   required of a patient. This further enhances the likelihood and ability of a health care  
22   provider to receive advance payment for services rendered.

23           According to the present invention, communication is established between a client  
24   computer, operated by a health care provider, and a remote server computer. The

1 communication can be established using the Internet, a direct-dial telephone line, or any  
2 other suitable wide area network infrastructure. The client computer displays a computer-  
3 displayable claim form to the health care provider which is used to create an insurance  
4 claim. The claim, including patient identification, insurance information, and treatment  
5 information is transmitted electronically from the client computer to the server computer.  
6 Although the present invention is most efficient when electronic claim forms are used, paper  
7 claim forms and conventional mail systems can also be used to submit claims to the remote  
8 server. The present invention is an improvement over the prior art, even when conventional  
9 mail systems are used, because it reduces the total time it takes for health care providers to  
10 receive payment for services rendered. In particular, the present invention provides systems  
11 and methods for promptly paying health care providers for services rendered, even before  
12 the claims are processed by the health insurance carrier. If paper claim forms are submitted  
13 by a participating health care provider, the claims are subsequently converted into an  
14 electronic format via OCI/OCR imaging or manual entry.

15       Upon receiving a claim, the remote server determines whether the claim in condition  
16 for advance payment using various auto automated processes. If necessary, the medical  
17 technician using the client computer can revise the claim to cause it to be in condition to be  
18 paid. When the remote server finally determines that the claim is in condition for advance  
19 payment, the remote server submits the claim to the patient's health insurance carrier for  
20 conventional claims processing and, if necessary, adjudication. The claim is sent  
21 electronically if the carrier is equipped to receive electronic claims. Otherwise, claims are  
22 sent by conventional mail in paper format. The claims processing and adjudication of a  
23 carrier may take several weeks or months. To expedite the payment of claims to health care  
24 providers, the present invention provides a method and a system for providing health care



1 providers with advanced payment for services rendered, even before insurance claims for  
2 those services can be processed and adjudicated by a corresponding carrier or payer. To do  
3 this, the remote server also submits claims to a payment entity where it is determined what  
4 funds should be advanced to the health care provider and how the funds are to be distributed.

5 The remote server then transmits information to the client computer to notify the  
6 health care provider of the various determinations that have been made. The information  
7 transmitted to the client computer can include data that represents an amount that is to be  
8 paid by the carrier or payer on behalf of the patient and any co-payment to be collected from  
9 the patient. The information can also indicate how much money will be advanced to the  
10 provider to promptly pay for rendered services. Typically, this amount corresponds with the  
11 amount that is to be paid by the carrier or payer. Because these processes, as described  
12 above, can occur almost instantaneously, typically in a matter of seconds or minutes, any co-  
13 payment can be collected from the patient before the patient is discharged from the offices  
14 of the health care provider. The remaining funds can then be received either by the carrier  
15 or payer through normal operations or they can be made almost immediately available using  
16 a short-term loan.

17 Upon receiving claim data, the payment entity cooperates with a financial entity to  
18 advance a credit of funds into two separate accounts, an operations account and a reserve  
19 account. Explanation of payments (EOP) data can be made available for the health care  
20 provider to view over the Internet as soon as the payment entity authorizes fund distribution.  
21 The EOP data explains the distribution of funds to each of the accounts and can be updated  
22 by the payment entity and/or by the financial entity.

23 In one example, the operations account is credited with approximately 80% of the  
24 advance and is immediately accessible by the health care provider to meet financial

1 obligations and to avoid cash flow problems. The reserve account is credited with  
2 approximately 20% of the advance. The funds of the reserve account are not immediately  
3 accessible to the health care provider. The reserve account is debited to cover processing  
4 fees, interest on the outstanding balance of the credit advance, and to pay down the  
5 outstanding balance of the credit advance, if any.

6 When the carrier or payer finally completes the processing and adjudication of the  
7 claim, the payment for services rendered is submitted to the provider's reserve account to  
8 pay down the outstanding balance and the interest on the outstanding balance. The payment  
9 to the reserve account can be made electronically with an electronic fund transfer or by  
10 check. The carrier or payer submits an explanation of benefits (EOB) form to the patient  
11 when the processing of the claim is complete. EOB data can also be made accessible online.

12 In view of the foregoing, the invention provides systems and methods for enabling  
13 health care providers to be promptly paid for services rendered. A claim can be submitted,  
14 verified and approved for advance payment almost instantaneously. A claim that is not in  
15 condition for advance payment can be immediately amended for approval. A health care  
16 provider is notified of the amount that is authorized for advance payment and of any co-  
17 payments that are due from the patient so that they can be collected before the patient is  
18 discharged. The approved amount of advance payment is distributed between into two  
19 accounts, one of which provides the health care provider with immediate access to funds for  
20 health care services rendered, even before the carrier or payer has paid for the services.

21 Additional features and advantages of the invention will be set forth in the  
22 description which follows, and in part will be obvious from the description, or may be  
23 learned by the practice of the invention. The features and advantages of the invention may  
24 be realized and obtained by means of the instruments and combinations particularly pointed

1 out in the appended claims. These and other features of the present invention will become  
2 more fully apparent from the following description and appended claims, or may be learned  
3 by the practice of the invention as set forth hereinafter.



1                    **DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS**

2                    The present invention relates to systems and methods for promptly paying health  
3                    care providers for services rendered, even before payment requests for the rendered services  
4                    can be processed and adjudicated by corresponding carrier or payers.

5                    A medical technician at the offices of a health care provider operates a client  
6                    computer that communicates with a remote server. According to one embodiment of the  
7                    invention, the medical technician views a computer-displayable claim form displayed by the  
8                    client computer and enters patient information, insurance plan information, and treatment  
9                    information which includes a diagnosis code and a treatment code that describe a medical  
10                   diagnosis and associated treatment performed on a patient by the health care provider. The  
11                   patient information, insurance plan information and treatment information are transmitted to  
12                   the remote server. Upon receiving this information, the remote server performs an operation  
13                   to determine whether the patient is approved by the carrier or payer of the insurance plan or  
14                   of another insurance plan. The remote server may also perform an operation to the  
15                   treatment information to determine whether the diagnosis code and the treatment code  
16                   correspond to health care services that are approved for advance payment.

17                   If the remote server determines that the patient is not covered by an approved  
18                   insurance plan or that the submitted claim is not in allowable condition for advance  
19                   payment, the remote server transmits information to the client computer to inform the  
20                   medical technician of this result. In response, the medical technician can amend the patient  
21                   information, insurance plan information or treatment information to place the claim in  
22                   allowable condition for advance payment. After amending the claim, the claim is again  
23                   submitted to the remote server, where it is again analyzed to determine whether the patient is  
24                   covered by an approved insurance plan and whether the claim is in allowable condition for

1 advance payment. The remote system can also inform the health care provider of any co-  
2 payment to be collected from the patient before the patient is discharged so that the co-  
3 payment can be received immediately.

4 According to one presently preferred embodiment, when the remote server  
5 determines that a submitted claim is in condition for advance payment, the remote server  
6 transmits the claim data to the carrier or payer for processing while simultaneously  
7 submitting the claim data to a payment entity which determines exactly how much money  
8 will be advanced for the services performed and how the funds are to be distributed. Once  
9 this determination is made, the client computer can access data over the Internet that  
10 provides an explanation of payment (EOP) regarding how much money is to be advanced  
11 and how the money is to be distributed.

12 In one embodiment, the approved distribution funds are distributed between two  
13 accounts of a financial entity, such as a bank. The two accounts include a reserve account  
14 and an operational account. The funds of the operational account comprise a significant  
15 percentage of the advanced funds and are immediately accessible to the health care provider.  
16 These funds are made available to the health care provider within hours or days, well before  
17 the corresponding insurance claim can be processed and adjudicated by the carrier or payer,  
18 which can take weeks or months. The reserve account is credited with the balance of the  
19 advanced funds. The funds of the reserve account are not accessible to the health care  
20 provider, but are instead debited for service fees, interest for outstanding balances, and to  
21 pay off any outstanding balances. When the insurance claim is finally processed by the  
22 carrier or payer, the claim payment is credited to the reserve account and the EOP data is  
23 updated. After expenses have been paid by the reserve account, the remaining balance is  
24

1 transferred to the operational account, thereby making the remaining funds available to the  
2 health care provider.

3       Embodiments of the invention include or are incorporated in computer-readable  
4 media having computer-executable instructions or data structures stored thereon. Examples  
5 of computer-readable media include RAM, ROM, EEPROM, CD-ROM or other optical disk  
6 storage, magnetic disk storage or other magnetic storage devices, or any other medium  
7 capable of storing instructions or data structures and capable of being accessed by a general  
8 purpose or special purpose computer. Computer-readable media also encompasses  
9 combinations of the foregoing structures. Computer-executable instructions comprise, for  
10 example, instructions and data that cause a general purpose computer, special purpose  
11 computer, or special purpose processing device to execute a certain function or group of  
12 functions. The computer-executable instructions and associated data structures represent an  
13 example of program code means for executing the steps of the invention disclosed herein.

14       The invention further extends to computer systems for interactively preparing and  
15 paying insurance claims and determining whether the claims are in condition to be paid.  
16 Those skilled in the art will understand that the invention may be practiced in computing  
17 environments with many types of computer system configurations, including personal  
18 computers, multi-processor systems, network PCs, minicomputers, mainframe computers,  
19 and the like. The invention will be described herein in reference to a distributed computing  
20 environment, such as the Internet, where tasks are performed by remote processing devices  
21 that are linked through a communications network. In the distributed computing  
22 environment, computer-executable instructions and program modules for performing the  
23 features of the invention may be located in both local and remote memory storage devices.  
24

1 **1. Network Environment**

2 Figure 1 illustrates an embodiment of the systems and methods for preparing and  
3 promptly paying health insurance claims according to the present invention. Client system  
4 10 may be located at the offices of a health care provider in order to allow a medical  
5 technician to create and submit insurance claims. As used herein, the term "health care  
6 provider" is to be broadly construed to include any physician, dentist, medical practitioner,  
7 or any other person whose services can be compensated by a health insurance carrier or  
8 payer, a health maintenance organization, or the like. As used herein, the term "medical  
9 technician" represents any person who engages in the activity of preparing or submitting  
10 insurance claims on behalf of a health care provider. Since medical technicians are typically  
11 employees of health care providers, representatives of health care providers, or may be the  
12 health care providers themselves, any of the claims that recite acts, operations, or processes  
13 conducted by "health care providers" are to be construed to extend to the same acts,  
14 operations, or processes conducted by "medical technicians", as well. The terms "carrier"  
15 and "payer" are generally interchangeable, and any reference to "carrier" in the specification  
16 or claims extends to entities that can be classified as "payers" unless otherwise specified.

17 The term "insurance plan" extends to any contractual or other legal arrangement  
18 whereby medical and other related expenses are paid by a carrier on behalf of a patient  
19 beneficiary. Examples of insurance plans include health maintenance organizations, fee-for-  
20 service health care plans, employer-sponsored insurance plans, etc.

21 Client system 10 can be a general purpose computer, such as a personal computer, or  
22 a special purpose computer adapted to perform the functions and operations disclosed  
23 herein. Client system 10 may include a display device such as a monitor for displaying  
24 claim form 12, as will be disclosed in greater detail below, and one or more input devices



1 such as a keyboard, a mouse, etc. for enabling a medical technician to enter the required  
2 information to client system 10.

3 The embodiment illustrated in Figure 1 also includes a server system 14 located  
4 typically at a remote location with respect to client system 10. Server system 14 can include  
5 a general purpose computer or a special purpose computer adapted to execute functions and  
6 operations of the invention. For example, in Figure 1, server system 14 includes a processor  
7 16, which represents a general purpose computing device for receiving information  
8 associated with insurance claims and for determining whether the received insurance claim  
9 is in allowable condition for advance payment. The operation of server system 14 and  
10 processor 16 will be discussed in greater detail below.

11 In one embodiment, processor 16 is capable of accessing information stored in a  
12 patient eligibility database 18 and an accepted medical practice database 20. Database 18  
13 can include compilation of data that enables server system 14 to determine whether a  
14 particular patient identified at client system 10 is a beneficiary of an approved insurance  
15 health plan. Likewise, database 20 can be any compilation of data that enables service  
16 system 14 to determine whether the health care services associated with a submitted claim  
17 are approved for advance payment. Generally, a submitted claim is approved for advance  
18 payment if it is determined that the patient is a beneficiary of an approved insurance  
19 carrier/plan and the services rendered are qualified services under the particular insurance  
20 plan of the patient.

21 While the illustrated components of server system 14 of Figure 1 can be located at a  
22 single remote site with respect to client system 10, other embodiments of the invention  
23 employ a processor 16 and databases 18 and 20 that may be located at different sites with  
24 respect to each other. The terms "server system" and "remote server" extend to the latter

1 case, wherein the various components 16, 18, and 20 are located in a distributed  
2 environment unless specifically indicated otherwise.

3 In the embodiment of Figure 1, client system 10 and server system 14 communicate  
4 by means of Internet infrastructure 22. While the invention is described herein in the  
5 context of the Internet, those skilled in the art will appreciate that other communications  
6 systems can be used, such as direct dial communication over public or private telephone  
7 lines, a dedicated wide area network, or the like. It should also be appreciated that the  
8 present invention, although preferably practiced over an Internet infrastructure, can also be  
9 practiced using conventional paper mailing systems and paper claim formats. However,  
10 before the server system can determine whether a claim is in allowable condition for  
11 advance payment, the claim must first be converted into an electronic format. This can be  
12 accomplished by using any suitable optical character recognition (OCR) or optical character  
13 imaging (OCI) software and hardware, or by manual data entry.

## 14 15 **2. Claim Preparation and Adjudication**

16 The following discussion relates to processes of creating and adjudicating insurance  
17 claims using a computer network. Although the following techniques can facilitate the  
18 insurance claim creation and adjudication process, the methods of paying insurance claims  
19 according to the invention, including advancing funds to the health care provider using a  
20 short-term loan, can be practiced in connection with insurances claim prepared and  
21 adjudicated in other ways, such as other electronic or paper insurance claims. Further  
22 details relating to the following insurance creation and adjudication processes are disclosed  
23 in U.S. Patent Application Serial No. 09/118,668, filed July 17, 1998, entitled "Internet  
24 Claims Processing System," and U.S. Patent Application Serial No. 09/204,886, filed

1 December 3, 1998, entitled "Provider Claim Editing and Settlement System," both of which  
2 are incorporated herein by reference.

3 Referring to Figure 1, when a medical technician desires to prepare an insurance  
4 claim for health care services, the medical technician operates client system 10 and  
5 establishes communication with server system 14 or verifies that communication has been  
6 established. For instance, the medical technician may use client system 10 to dial into a  
7 modem pool associated with an Internet service provider in Internet infrastructure 22. After  
8 communication with the Internet service provider has been achieved, client system 10 may  
9 be used to transmit a Uniform Resource Locator (URL) to the Internet infrastructure 22 that  
10 requests access to resources provided by server system 14. Alternatively, any other suitable  
11 technique can be used to establish communication between client system 10 and server  
12 system 14.

13 In many cases, client system 10 can maintain communication with server system 14  
14 for an extended period of time during which claims for multiple patients are processed. For  
15 instance, client system 10 can be a dedicated terminal that maintains communication with  
16 server system 14 in order for numerous insurance claims to be created and processed.

17 Once communication has been established, the medical technician can use client  
18 system 10 to request claim form 12 to be displayed on a monitor associated with client  
19 system 10. Claim form 12, in one embodiment, is a Hyper Text Markup Language (HTML)  
20 document retrieved from server system 14 and displayed to the medical technician.  
21 Alternatively, claim form 12 can have any other suitable format or can be stored at a local  
22 cache or any other local data storage system, thereby eliminating the need to repeatedly  
23 retrieve claim form 12 from a remote location as multiple insurance claims are created.  
24

Figure 2 illustrates one example of a claim form 12A that enables a medical technician to verify that a patient is a beneficiary of an insurance plan and to learn of the details of the insurance plan. In this embodiment, claim form 12A includes a field 26 to which a patient identifier can be entered. Patient identification information, such as patient information 28 of Figure 1, is entered by the medical technician into claim form 12A of Figure 2. Depending on the manner in which the invention is implemented, the medical technician may be required to enter other information, such as insurance information 30 of the patient, or other information 32 of Figure 1. Other information 32 may include health care provider identification, or the like. Returning to Figure 2, claim form 12A includes a field 34 for identifying the insurance plan of the patient, a field 36 for receiving information identifying the health care provider and a field 38 for entering additional information identifying the patient. As shown in Figure 2, field 38 can be adapted to receive a patient's date of birth. Alternatively, any other information that can uniquely identify a particular patient from among a pool of patients can be used in combination with fields 26 and 38. By way of example and not limitation, the patient identification information entered to fields 26 or 38 can be modified to include patient's social security number, or any other number uniquely associated with the patient by a carrier or a health maintenance organization.

Referring now to Figure 1, after the medical technician has entered patient identifier 28, insurance information 30, and, optionally, other information 32, the medical technician uses client system 10 to transmit the information to server system 14. In one embodiment, processor 16 compares patient identifier 28 against data stored in patient eligibility database 18 to determine if the patient is a beneficiary of an insurance health plan and, if so, the details of the benefits thereof. If the patient is found not to be a beneficiary of an approved insurance health plan, information is transmitted from server system 14 to client system 10

1 to inform the medical technician of this result. Thus, when the patient is not a beneficiary, a  
2 medical technician and the health care provider can promptly learn of this status and take  
3 appropriate steps to modify the claim to correct errors, if any, that prevented the patient from  
4 being recognized as a beneficiary of an approved health insurance plan.

5 If it is determined that the patient is a beneficiary, information is likewise transmitted  
6 from server system 14 to client system 10 informing the medical technician of the patient's  
7 status. This information can also provide details of the coverage provided to the patient that  
8 can allow the health care provider to know how much of a co-pay to request from the patient  
9 before the patient is discharged from the office. Information can also contain details  
10 regarding the types of diagnoses and treatments that are approved for payment, as well as  
11 corresponding diagnosis and treatment codes, so that the medical technician does not have to  
12 spend inordinate amounts of time researching to know what codes correspond to the services  
13 performed.

14 The medical technician can complete the claim form by entering treatment  
15 information 40 that includes at least one diagnosis code 42 and one treatment code 44.  
16 Referring now to Figure 3, claim form 12B includes fields specifically adapted to accept the  
17 diagnosis code 42 and the treatment code 44. Claim form 12B of Figure 3 and claims form  
18 12A may be separate forms displayed to the medical technician using client system 10 or  
19 can be separate portions of the single claim form. Claim form 12B, in the example of Figure  
20 3, includes header information 50 that has been automatically prepared by the server system  
21 before claim form 12B was transmitted to the client system. Providing a claim form 12B  
22 that is automatically partially completed contributes to the efficiency of the claims creation  
23 and submission processes of the invention. While claim form 12B represents a claim form  
24 that can be advantageously used by many health care providers, the specific fields included

1 in the form and the information displayed on the form may vary from one implementation to  
2 another, depending on the type of health care provider, insurance plan, and other factors.

3 Claim form 12B includes a plurality of fields 52 designed to receive and display  
4 diagnosis codes representing the health care provider's diagnosis of the patient or the nature  
5 of the patient's illness or injury. Thus, as used herein, "diagnosis code" refers to any  
6 information that specifies or indicates a patient's condition as diagnosed by a health care  
7 provider. Any predefined set of diagnosis codes can be used with the invention.

8 Claim form 12B also includes one or more fields 54 designed to receive and display  
9 treatment codes associated with the diagnosis code of field 52. As used herein, "treatment  
10 codes" can represent any type of health care services, including, but not limited to clinical  
11 therapy, pharmacological therapy, therapeutic supplies or devices, and other goods or  
12 services that can be paid for by health insurance plans or health maintenance organizations.  
13 The treatment codes can be selected from any desired set of predefined treatment codes that  
14 define various treatments that can be administered to patients. In one embodiment, the  
15 diagnosis codes and the treatment codes can be selected from the codes and code modifiers  
16 of a volume entitled Physician's Current Procedural Terminology (CPT), which is  
17 maintained and updated annually by the American Medical Association.

18 As shown in Figure 3, claims form 12B can also include other fields, such as fields  
19 56, that are to be completed by the medical technician before the insurance claim is  
20 submitted. In this example, fields 56 are adapted to receive and display information  
21 identifying the patient, a referring physician, and the health care provider who is to receive  
22 payment for the rendered health care services.

23 When fields 52, 54, and 56 are filled out by the medical technician, the medical  
24 technician submits the information included in these fields to server system 14 from client

1 system 10. Referring again to Figure 1, server system 14 receives this information and  
2 performs a claim verification process, in response thereto, to determine whether the claim,  
3 as submitted, is in condition for advance payment for services rendered. Typically, a  
4 determination that the claim is in condition for advance payment is made if the claimed  
5 services correspond to health care services that are approved for payment by the patient's  
6 insurance plan. For instance, processor 16 can compare the diagnosis code 42 and treatment  
7 code 44 with a compilation of currently accepted medical procedures stored in database 20.  
8 In one embodiment, a database of prevailing health care charges, such as the Medical Data  
9 Research (MDR) database, or a customized database compiled by an entity operating the  
10 payment system of the invention is used to determine whether the diagnosis codes and  
11 treatment codes correspond to health care services that are approved for payment. Upon  
12 learning of the invention disclosed herein, those skilled in the art will understand how an  
13 MDR database or another database can be used to determine whether the submitted claim  
14 form represents health care services that are approved for payment.

15 Database 20 can alternatively be one that is compiled or supplemented on an ongoing  
16 or repeated basis as the entity that authorizes the insurance claims for advance payment  
17 processes large numbers of insurance claims associated with particular payers or insurance  
18 carriers. For example, the processes disclosed in U.S. Patent Application Serial No.  
19 09/634,679, filed August 8, 2000, entitled "Determining the Degree of Acceptance of  
20 Proposed Medical Treatment," which is incorporated herein by reference, can be adapted for  
21 this purpose.

22 Server system 10 also determines whether the information provided in claim form  
23 12B is sufficiently complete to place insurance claim in condition to be paid. For example,  
24 if the medical technician inadvertently fails to include information that identifies the

1 referring physician, server system can detect this error and notify client system 10 of the  
2 deficiency so that it can be remedied.

3 The claim verification process that is performed by server system 14 can be as  
4 complex as desired. In one embodiment, server system 14 analyzes the information  
5 submitted using claim form 12B to determine whether there are indicia of fraud or mistake,  
6 whether unusually expensive health care services are listed in the claim, or whether other  
7 anomalies are present that suggest the claim is not suitable for advance payment according  
8 to the present invention.

9 One technique that is sometimes used by health care providers to collect more money  
10 from insurance plans than is otherwise warranted is the practice of unbundling medical  
11 procedures. "Unbundling" consists of performing, for example, multiple medical  
12 procedures on a patient through a single surgical incision while submitting an insurance  
13 claim for the multiple medical procedures as if they had been performed separately.  
14 Typically, when only one incision is required to perform multiple medical procedures, the  
15 payment to the operating physician is less than the payment would be if each of the multiple  
16 medical procedures had been conducted through separate incisions. Other fraudulent  
17 unbundling techniques for submitting claims on multiple medical procedures are sometimes  
18 used as well. Thus, server system 14 can analyze the diagnosis codes and the treatment  
19 codes for indicia of unbundling practices. Furthermore, server system 14 may conduct any  
20 other checks on the submitted claim. For example, the server system 14 may cross reference  
21 the patient gender with the diagnosis and treatment codes. It would be inappropriate, for  
22 example, for a hysterectomy to be performed on a male or a vasectomy to be performed on a  
23 female.  
24



1 If the claim exhibits any of the foregoing features, the claim may be denied  
2 eligibility for advance payment of funds for services rendered. In which case, the health  
3 care provider will have to wait until the claim is processed and adjudicated by a  
4 corresponding carrier. Alternatively, the claim may be returned to the health care provider  
5 to allow revision of the claim. For example, the server system 14 can transmit reply  
6 information to client system 10 informing the medical technician of a negative result and  
7 can indicate the basis for rejecting a claim. Thus the medical technician can be informed  
8 that the claim form was not completely filled out, the treatment code is inconsistent with the  
9 diagnosis code, or any of a number of other possible reasons for rejecting the insurance  
10 claim. In response, the medical technician can amend the insurance claim by entering the  
11 correct information to the fields of claim form 12B of Figure 3, if necessary. In other cases,  
12 the health care provider can be informed of what diagnosis and treatment codes are  
13 appropriate for the services that were performed and will be approved for advance payment,  
14 according to the patient's insurance plan.

15 If the medical technician wishes to amend the insurance claim, the new information  
16 is transmitted from client system 10 to server system 14 for processing. Server system 14  
17 then repeats the previously described claim verification process of determining whether the  
18 amended insurance claim is in allowable condition for advance payment. The above-  
19 described procedure can be repeated as many times as desired or necessary to create and  
20 submit an insurance claim that describes health care services that are approved for payment  
21 by the patient's insurance plan, and subsequently eligible for advance payment prior to the  
22 carrier actually processing the claim. It should be appreciated that even if it is ultimately  
23 decide that a submitted claim is not eligible for advance payment, the claim verification  
24 process of the present invention, which can take just minutes even when resubmissions are

1 required, significantly reduces the time it takes for a claim to be processed and, if necessary,  
2 adjudicated by a carrier. This is particularly true when the claim verification process  
3 identifies clerical errors that can be identified and corrected almost instantaneously. It  
4 should be appreciated that this is an improvement over the prior art for at least informing a  
5 health care provider of correctable claim errors early on so that a health care provider does  
6 not have to engage in extensive research, telephone conversations or hold time, and mail  
7 adjudications just to place a claim in allowable condition to be paid.

8 Even though the processing and adjudication of insurance claims may be expedited  
9 in some degree by the foregoing description of the present invention, some health care  
10 providers find that processing of insurance claims by corresponding carriers still takes too  
11 long for their needs. This is true even when the claims are submitted in allowable condition  
12 for payment and are paid as expeditiously as possible through the carrier administrative  
13 systems. To remedy this problem, the present invention provides a method and system of  
14 promptly paying health care providers for services rendered, even before the corresponding  
15 insurance claims can be processed by the appropriate carrier. In particular, the present  
16 invention provides a payment entity 70, as shown in Figure 1, which advances a credit of  
17 funds to the health care provider for rendered services.

### 18 **3. Payment of Insurance Claims by Advancing Funds**

19  
20 Returning to Figure 1, once the server system 14 determines that a claim is eligible  
21 for advance payment, the server system 14 transmits claim data to a payment entity 70,  
22 which is in communication with the server system 14 through the Internet infrastructure 22.  
23 It should be appreciated that the payment entity 70 includes at least one server computer to  
24 perform the functions described herein by using appropriate computer-readable media and

1 computer-executable instructions. In one embodiment, the payment entity 70 uses a  
2 processor 16b to pre-adjudicate the submitted claim. In an alternative embodiment, the  
3 payment entity 70 used the processor 16 of the server computer to pre-adjudicate the  
4 submitted claim. Pre-adjudication involves determining how much money will be advanced  
5 for the claimed services. This determination is made by comparing any combination of the  
6 patient information 28, insurance information 30, treatment information 40, and other  
7 information 32 with archived records of insurance payment histories, similar claim payment  
8 results, adjudication rules, and the like. Pre-adjudication also may involve determining how  
9 the funds, if approved, are to be distributed and into which accounts they are to be  
10 distributed.

11 In one embodiment, the payment entity 70 communicates the resulting data of the  
12 pre-adjudication to server system 14. The resulting data includes financial information  
13 which the server system 14 subsequently transmits to client system 10 to inform the health  
14 care provider that the submitted claim is in condition for advance payment and the amount  
15 that will be advanced for services rendered. As a matter of example, claim form 12B of  
16 Figure 3 may include in the amount paid field 58 a dollar amount that is to be promptly paid  
17 for services rendered. The advance may be equal to the amount that was previously  
18 determined as being likely to be paid by the carrier on behalf of the patient. Receiving this  
19 information permits the medical technician to know exactly how much money to request  
20 from the patient for services rendered, in the form of a co-payment.

21 To illustrate, the medical technician might enter in field 54 a treatment code that  
22 represents a physical exam performed by a physician. The medical technician could then  
23 enter in field 60 a dollar amount, such as \$100, that represents the physician's charges for  
24 performing the physical exam. Field 62 sums all dollar amounts entered in fields 60. In this

1 example, if the physical exam was the only treatment rendered to the patient, field 62 would  
2 also display a dollar amount of \$100. If, however, the payment entity 70, when pre-  
3 adjudicating the submitted claim, determines that the patient's carrier typically pays only  
4 \$90 for a physical exam, field 50 displays the dollar amount of \$90 that is eligible for  
5 advanced payment according to the invention. A balance due field 64 displays the  
6 difference between the total charge field 62 and the amount paid field 58. Accordingly, the  
7 dollar amount displayed in field 64 represents the amount that should be collected from the  
8 patient for services rendered. As used herein, the term "co-payment" is defined to extend to  
9 the dollar amount displayed in field 64, representing the amount that is to be collected from  
10 the patient beyond the payment that is approved for payment by the carrier.

11 In another embodiment, the amount paid field 58 does not represent the amount that  
12 will be advanced in the form of an advance payment, but rather, it represents the coverage  
13 amount of the patient's insurance plan. According to this embodiment, the health care  
14 provider can access EOP data, if desired, on the Internet infrastructure by accessing an EOP  
15 website that is updated by the payment entity and/or by corresponding financial entities.

16 Although the previous example goes into some detail regarding how the payment  
17 entity 70 and the server system 14 are in communication, suggesting they are discrete  
18 entities, it should be appreciated that the payment entity 70 and the server system 14 can  
19 comprise a single organization or single server system.

20 Using the present invention, medical technicians and health care providers can be  
21 informed of the status of submitted insurance claims in a relatively short amount of time that  
22 is significantly less than conventional systems, which may require days, weeks, or more.  
23 Indeed, for practical purposes, a response to the submitted insurance claim is received  
24 almost immediately by the medical technician. It can be understood that the limiting factors

1 with respect to the speed of response include the data transmission rate supported by Internet  
2 infrastructure 22 of Figure 1 and the other communication links between the various  
3 components of the system, the processing capabilities of processor 16 and other components  
4 of server system 14, and the complexity of the submitted claim and the nature of the claim  
5 processing techniques performed by server system 14. Accordingly, although it was  
6 previously mentioned that paper claims can be submitted and subsequently converted to  
7 electronic form, payment generally occurs earlier when communication between the client  
8 system 10, server system 14, and payment entity occurs via an electronic medium, such as  
9 the Internet infrastructure 22.

10 When an electronic medium is used, the response time is short enough that a medical  
11 technician can conveniently continue viewing the claim form associated with a particular  
12 patient at client system 10 while server system 14 performs the operations that determine  
13 whether the submitted claim is in condition to be paid and while the payment entity 70 pre-  
14 adjudicates the claim to determine what funds if any will be made available for advance  
15 payment. Thus, a medical technician can efficiently and consecutively create and submit a  
16 series of claims and receive verification that the claims are in allowable condition for  
17 advance payment. In other words, a medical technician can easily create, submit, and, if  
18 necessary, revise and resubmit, a single claim before proceeding to the next claim in a series  
19 of claims, since the response time can be very short. This is in sharp contrast to prior art  
20 systems in which the response time of days, weeks, or longer make it entirely impractical for  
21 medical technicians to complete the entire claim creation and adjudication process for one  
22 claim before proceeding to the next claim.

23 Figure 1 also shows that the server system 14 is in communication with a carrier 72,  
24 which represents any health insurance company, health maintenance organization, fee-for-

1 service health care company, employer-sponsored health insurance, etc. The carrier  
2 includes appropriate computer-readable media and computer-executable instructions to  
3 perform the functions described herein. In one embodiment, server system 14 transmits  
4 claim information to the carrier 72 simultaneously with the transmission of the claim  
5 information to the payment entity 70. If the carrier 72 is not able to receive electronic claim  
6 data transmitted over the Internet infrastructure 22, then the server system produces paper  
7 claim documents that are mailed to the carrier 72 via conventional paper mail systems. The  
8 carrier 72 processes the insurance claim, which may include adjudication. However,  
9 because most of the claims that are transmitted from the server system are prescreened by  
10 the claim the verification process, it is unlikely that a claim will require extensive  
11 adjudication. It should be appreciated that this improves the overall efficiency of the carrier  
12 72 claim processing and adjudicating processes. Despite this improvement, however, some  
13 health care providers would prefer to have more immediate payment for rendered health care  
14 services. To meet this demand, the payment entity 70 transmits a fund distribution request  
15 to a financial entity 74, such as a bank, requesting that advanced funds be credited into an  
16 account that are immediately accessible to the health care provider for rendered health care  
17 services. The financial entity 74 may include computer systems and servers to perform the  
18 functions described herein by using appropriate computer-readable media and computer-  
19 executable instructions.

20 According to one embodiment, the fund distribution request provides information for  
21 the financial entity 74 to know exactly how much money to advance and how to distribute  
22 the funds. The fund distribution request may, for example, request that the funds be  
23 distributed between a provider operational account 76 that is accessible to the health care  
24 provider and a provider reserve account 78 that is not accessible to the health care provider.

1 The funds distributed to the provider operational account 76 are immediately accessible to  
2 the health care provider, whereas the funds in the provider reserve account are not accessible  
3 to the health care provider, but instead are debited for service fees, interest on any unpaid  
4 balances, and to pay off any unpaid balances.

5 The following is one example of how a fund distribution request may occur and how  
6 it enables a health care provider to receive advance payment for rendered health care  
7 services. As a matter of illustration only, a health provider submits a claim for \$100. After  
8 being subjected to the claim verification process by the server system 14 and the pre-  
9 adjudication process by the payment entity 70, it is determined that the \$100 claim is  
10 eligible for an advance payment of only \$90. Within minutes or hours, the payment entity  
11 70 submits a fund distribution request to the financial entity 74 for payment of \$90 to be  
12 paid distributed between two accounts, \$72 (80% of \$90) into the provider operational  
13 account 76 and \$18 (20% of \$90) into the provider reserve account 78. Accordingly, the  
14 health care provider is then given immediate access to \$72 for rendered services, even  
15 though the payment request submitted to the carrier may not be paid for weeks or months.

16 Finally, once a carrier 72 completes the processing of a claim and submits payment  
17 for the claim, the funds are credited to the provider reserve account 78 to pay for previously  
18 identified expenses. This transfer of funds can occur either electronically or manually. Any  
19 funds remaining in the reserve account 78 after expenses are paid are transferred to the  
20 provider operational account 76 and are accessible by the health care provider. EOP data  
21 regarding fund distribution requests and actual account transactions is updated and available  
22 through the Internet infrastructure 22. EOP data provides health care providers with  
23 immediate access to information regarding what funds are available and what credits and  
24 debits have been made to the reserve account. This information can be updated by the

1 financial entity 74 and/or by the payment entity 70. Once a carrier 72 processes the claim, it  
2 submits explanation of benefits (EOB) data to the patient, which can be received by mail or  
3 accessed electronically of the Internet infrastructure 22.

4 Figure 4 illustrates a flow diagram of one embodiment of the present invention. As  
5 shown, in step 80, communication is established between the client system and the server  
6 system as described herein. In step 82, the client system receives and displays the claim  
7 form to enable the medical technician to enter the information required to complete the  
8 insurance claim. As previously noted, the client system can retrieve the claim form from the  
9 remote server system or from a local data storage device. In step 84, the medical technician  
10 enters the patient information, insurance information, and treatment information to the  
11 server system.

12 In step 86, the server system determines whether the patient is a beneficiary of an  
13 approved insurance plan. The server system, in step 86, may also subject the claim to a  
14 claim verification process to verify that the claim does not contain irregularities and to  
15 verify that the claim is eligible for advance payment. If it is determined that the claim, as  
16 submitted, is not in condition for advance payment or if the patient is not a beneficiary of an  
17 approved insurance plan then the client is notified. The claim can then be revised and  
18 resubmitted until the claim is placed in condition for advance payment, if possible.

19 In step 90, after determining that the claim is approved for advance payment, the  
20 server system notifies the appropriate carrier of the insurance claim. In response, as shown  
21 in step 92, the carrier begins processing the claim. If adjudication is necessary then the  
22 carrier adjudicates the claim, as shown in step 94. Finally, after processing the claim, step  
23 92, and, if necessary, after adjudicating the claim, step 94, the carrier provides payment for  
24 the rendered health care services, step 96. The payment is made to the provider reserve



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1 account, step 92, which is debited, step 108, for services and advanced funds that were  
2 previously provided to the health care provider.

3 As shown in step 98, the payment entity determines how much money to advance to  
4 the health care provider for services rendered and how the funds are to be distributed. The  
5 server is notified of the resulting decision, which is subsequently passed on to the client  
6 system. At that point, in step 100, the client system determines what co-payment, if any, is  
7 required from the patient.

8 The payment entity submits a fund distribution request to the financial entity, step  
9 102, instructing the financial entity to advance a credit of funds between a provider reserve  
10 account, step 106, and a provider operational account, step 108. The provider reserve  
11 account is credited, step 104, with designated advance funds and with any payments that are  
12 made from carriers for processed claims. The funds in the reserve account are not  
13 immediately accessible to the health care provider, but instead are debited, step 108, to pay  
14 for any service fees, interest, and to pay down any unpaid balance. Any remaining balance  
15 in the provider reserve account is credited to the provider operational account, step 110. The  
16 funds in the provider operational account are immediately available to the health care  
17 provider.

18 The systems and methods disclosed herein can be practiced in combination with the  
19 systems disclosed in U.S. Patent Application Serial No. 09/204,886, entitled "Provider  
20 Claim Editing and Settlement System", filed July 17, 1998, which is incorporated herein by  
21 reference. For example, the claim preparation and editing systems of the foregoing patent  
22 application can be employed to determine whether health services are approved for payment  
23 prior to performing health care services. Furthermore, the methods of the present invention  
24 can be adapted according to the methods disclosed in the foregoing patent application to

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1 determine whether health services are eligible for advance payment prior to performing such  
2 services.

3 The present invention may be embodied in other specific forms without departing  
4 from its spirit or essential characteristics. The described embodiments are to be considered  
5 in all respects only as illustrative and not restrictive. The scope of the invention is,  
6 therefore, indicated by the appended claims rather than by the foregoing description. All  
7 changes which come within the meaning and range of equivalency of the claims are to be  
8 embraced within their scope.

9 What is claimed and desired to be secured by United States Letters Patent is: